

Doc Code: AP.PRE.REQ

PTO/SB/33 (10-08)

Approved for use through 11/30/2008. OMB 0651-0031

U.S. Patent and Trademark Office; U.S. DEPARTMENT OF COMMERCE

Under the Paperwork Reduction Act of 1995, no persons are required to respond to a collection of information unless it displays a valid OMB control number.



**PRE-APPEAL BRIEF REQUEST FOR REVIEW**

Docket Number (Optional)

SON-3163

Application Number

10/579,903-Conf.  
#6919

Filed

November 15, 2006

First Named Inventor

Tomiji Tanaka et al.

Art Unit

2828

Examiner

M. W. Carter

Applicant requests review of the final rejection in the above-identified application. No amendments are being filed with this request.

This request is being filed with a notice of appeal.

The review is requested for the reason(s) stated on the attached sheet(s).

Note: No more than five (5) pages may be provided.

I am the

☐

applicant /inventor.

☐

assignee of record of the entire interest.  
See 37 CFR 3.71. Statement under 37 CFR 3.73(b)  
is enclosed. (Form PTO/SB/96)

☒

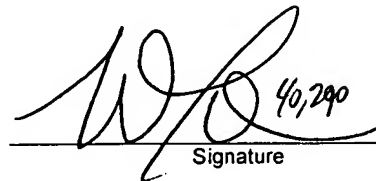
attorney or agent of record.

Registration number 24,104/40,290

☐

attorney or agent acting under 37 CFR 1.34.

Registration number if acting under 37 CFR 1.34. \_\_\_\_\_



Signature

Ronald P. Kananen/Christopher M. Tobin  
Typed or printed name

(202) 955-3750

Telephone number

November 18, 2008

Date

NOTE: Signatures of all the inventors or assignees of record of the entire interest or their representative(s) are required. Submit multiple forms if more than one signature is required, see below\*.

☒

\*Total of 1 forms are submitted.



Docket No.: SON-3163  
(PATENT)

**IN THE UNITED STATES PATENT AND TRADEMARK OFFICE**

In re Patent Application of:  
Tomiji Tanaka et al.

Application No.: 10/579,903

Confirmation No.: 6919

Filed: November 15, 2006

Art Unit: 2828

For: EXTERNAL CAVITY TYPE  
SEMICONDUCTOR LASER

Examiner: Michael W. Carter

**REQUEST FOR PRE-APPEAL BRIEF PANEL REVIEW OF FINAL REJECTION**

MS AF  
Commissioner for Patents  
P.O. Box 1450  
Alexandria, VA 22313-1450

Dear Sir:

**INTRODUCTORY COMMENTS**

This communication is responsive to the Final Office Action dated June 4, 2008, in this application, and is concurrently filed with a Notice of Appeal and request for extension of time. It is anticipated that Panel Review will obviate the need for the filing a Brief. Accordingly, Applicant respectfully requests pre-appeal brief panel review of the Final Office Action, and allowance of the claims in this application. In the Action, claims 1-18 have been rejected under 35 U.S.C. 103(a) as detailed below.

Claims 1, 3-4, and 11 were rejected under 35 U.S.C. § 103(a) as being unpatentable over U.S. Pat. No. 4,913,525 to Asakura et al. ("Asakura") in view of U.S. Pat. No. 6,488,419 to Kato et al. ("Kato"). This rejection is respectfully traversed.

Asakura discloses a frequency stabilized light source including a semiconductor laser chip, a lens, a finite Fourier diffraction grating and an anti-reflection coating. (Asakura, col. 3, lines 4-6.) "A light beam coming out of one facet of the semiconductor laser chip is collimated by the lens, and it is incident on the Fourier grating." (Asakura, col. 3, lines 6-9.) "The incident light is dispersed

11/19/2008 SHOHANME 00000018 100013 10579903  
01-FC-1401 540-00-DA

depending on its wavelengths, and the light with a specific wavelengths, and the light with a specific wavelength determined from the angle of the grating is fed back to the active layer of the semiconductor laser chip.” (Asakura, col. 3, lines 9-13.) “The semiconductor laser chip oscillates stably at the wavelength of the feedback light, and emits a frequency stabilized output light from the other facet thereof.” (Asakura, col. 3, lines 13-16.) “The output light from the semiconductor laser chip has its wavelength varied by the rotation of the grating.” (Asakura, col. 3, lines 16-19.)

The Non-final Office Action of November 16, 2007, makes clear that Asakura fails to disclose or suggest many of the features recited in claim 1, namely:

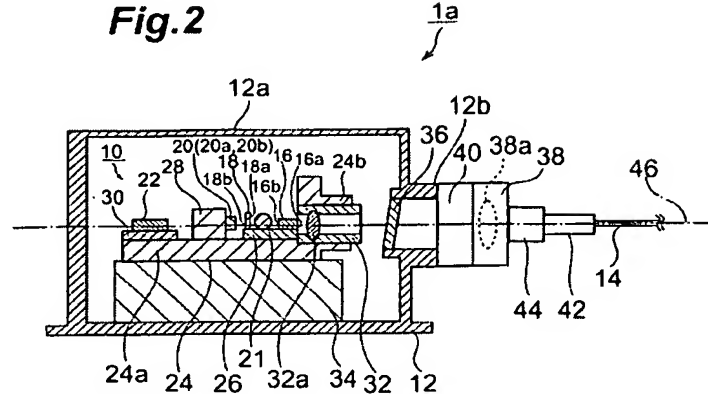
*“a window glass disposed opposite to a beam emission surface of the semiconductor laser device; a grating that receives a beam emitted from the semiconductor laser device through the window glass and returns a beam having a predetermined wavelength to the semiconductor laser device; and ... wherein the window glass is arranged in a first state or a second state, wherein in the first state the window glass is nearly in parallel with a first axis and is not in parallel with a second axis, wherein in the second state the window glass is not in parallel with the first axis, the window glass being nearly in parallel with the second axis, and wherein the first axis is nearly perpendicular to a surface that is in parallel with at least one of the boundary surfaces of the activation layer and other layers of the semiconductor laser device, and the second axis is nearly in parallel with the beam emission surface of the semiconductor laser device and nearly perpendicular to the first axis”* (Non-final Office Action of November 16, 2007, pg. 2, line 20 - pg. 3, line 6.)

Kato fails to cure the deficiencies of Asakura. Specifically, Kato fails to disclose or suggest *“a window glass disposed opposite to a beam emission surface of the semiconductor laser device; a grating that receives a beam emitted from the semiconductor laser device through the window glass and returns a beam having a predetermined wavelength to the semiconductor laser device[.]”*

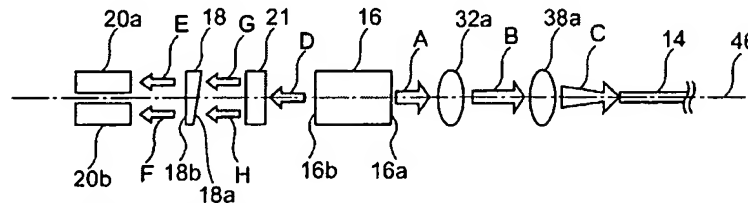
Kato discloses a light emitting module including a semiconductor light emitting device 16, photodetectors 20a, 20b, and an etalon 18. (Kato, Abstract.) The semiconductor 16 has a first light reflecting surface 16b, a second light emitting surface 16a, and an active layer. (Kato, col. 16, lines 13-19.) The active layer is arranged between the light reflecting surface 16b and the light emitting surface 16a. (Kato, col. 8, lines 36-39.)

Photodetectors 20a, 20b are located so as to receive transmitted light from the first light reflecting surface 16b of the semiconductor light emitting device. (Kato, Abstract.) As shown in Kato Fig. 2, reproduced below, the etalon 18 is located between the first light reflecting surface 16b and the photodetector 20a, 20b. (Kato, Abstract.)

**Fig.2**



**Fig.12A**



Kato discloses that “the optical fiber 14, lenses 32a, 38a, semiconductor laser 16, etalon 18, and photodetectors 20a, 20b are arranged in a direction of a predetermined axis 46 in the semiconductor laser module 1a.” (Kato, col. 15, lines 55-59.) The “semiconductor laser module 1a utilizes the output light from the back face of the semiconductor laser 16.” (Kato, col. 15, lines 59-60.) “This output light is spectroscopically split by use of the etalon 18 to obtain a plurality of monitor light including respective wavelength components having a predetermined wavelength spacing in the wavelength spectrum of the semiconductor laser 16.” (Kato, col. 15, lines 60-65.)

Kato Figure 12A, reproduced above, describes the propagation of light in the semiconductor laser module 1a. (Kato, col. 16, lines 6-8.) Kato discloses:

“12A is a schematic view showing the propagation of light in the semiconductor laser module 1a. The optical fiber 14, lens 38a, lens 32a, semiconductor laser 16, etalon 18, optical waveguide circuit 21, and photodetectors 20a, 20b are arranged in turn in a direction of the predetermined axis 46. The light A emits from the light emitting surface 16a of the semiconductor laser 16 and then is converged through the lens 32a toward the lens 38a to form light B. Further, the light B is converged by the lens 38a so as to enter the end face of the optical fiber 14 to form light C. On the other hand, the light D emits the light reflecting surface 16b of the semiconductor laser 16 and is split into light G and light H in the light collimating means 21 such as an optical waveguide circuit and thereafter the light G and H are incident to the input surface 18a of the etalon 18.” (Kato, col. 16, lines 8-22.)

The only description Kato makes concerning the hermetic glass 36 shown in Kato Figure 2 above is: "A wall surface of the package main body 12a has an optical window sealed by hermetic glass 36, in its portion communicating with the cylindrical portion 12b." The hermetic glass 36, as disclosed by Kato, would thus be positioned between lens 32a and lens 38a in Kato Figure 12A supra, and only light B would pass through the hermetic glass 36. Kato makes no mention whatsoever of "a grating that receives a beam emitted from the semiconductor laser device through the window glass."

Therefore, Kato clearly fails to disclose or suggest "*a window glass disposed opposite to a beam emission surface of the semiconductor laser device; a grating that receives a beam emitted from the semiconductor laser device through the window glass and returns a beam having a predetermined wavelength to the semiconductor laser device;*" as recited in independent claim 1.

Because even the combination of Asakura and Kato would still fail to yield the features of Applicant's claimed invention, a prima facie case of obviousness has not been presented for independent claim 1. *In re Royka*, 490 F.2d 981, 180 USPQ 580 (CCPA 1974).

Claims 3, 4 and 11 depend from claim 1 and thus incorporate the distinct features recited therein, as well as their separately recited, patentably distinct features.

Thus, Applicant respectfully requests reconsideration and withdrawal of the rejection of claims 1, 3-4, and 11 under 35 U.S.C. § 103(a) as being unpatentable over Asakura in view of Kato.

Claims 2 and 7 were rejected under 35 U.S.C. § 103(a) as being unpatentable over Asakura in view of Kato, and further in view of U.S. Pat. No. 5,870,417 to Verdiell et al. ("Verdiell"); Claims 5, 6 and 12 were rejected under 35 U.S.C. § 103(a) as being unpatentable over Asakura in view of Kato, and further in view of Mizuno et al., "100mW Kink-free Blue-violet Laser Diodes with Low Aspect Ratio," Proceedings of the 11<sup>th</sup> Sony Research Forum, 2001 ("Mizuno"); Claims 8-10 were rejected under 35 U.S.C. § 103(a) as being unpatentable over Asakura in view of Kato, and further in view of U.S. Pat. No. 7,027,469 to Sidorin ("Sidorin"); and Claims 13-18 were rejected under 35 U.S.C. § 103(a) as being unpatentable over Asakura in view of Kato, Mizuno, Verdiell and Sidorin. These rejections are respectfully traversed.

Claims 2 and 7 depend from claim 1 and thus incorporate the features recited therein. As described above, Asakura and Kato fail to disclose these claimed features. Verdiell discloses a thermal compensator for waveguide DBR sources, and is introduced as purportedly disclosing an

angle between the surface of the window glass and the second axis in the range of 5-12 degrees. Even assuming, *arguendo*, that these features might be disclosed, there is no disclosure or suggestion of the above-described features regarding claim 1, so the three way combination of references would fail to yield what is claimed therein.

Claims 5, 6 and 12 depend directly or indirectly from independent claim 1, and thus incorporate the features recited therein. Asakura and Kato fail to disclose such features as described above. Mizuno is introduced as disclosing a blue laser diode and certain power features, but Mizuno does not address the above-described features of claim 1.

Claims 8-10 depend from claim 1 and thus incorporate the features recited therein. As described above, Asakura and Kato fail to disclose these claimed features. Sidorin is introduced for purported disclosures of the additional features recited in claims 8 and 10 regarding cavity length, but does not address and offers no remedy to the deficiencies of Asakura and Kato. Thus even the combination of Asakura, Kato and Sidorin would still fail to yield the features of Applicant's claim 1, let alone dependent claims 8-10.

For reasons similar to those provided regarding claim 1 above, claim 13 is neither disclosed nor suggested by Asakura in view of Kato. Nor do Mizuno, Verdiell, or Sidorin remedy these deficiencies. Accordingly, a prima facie case of obviousness has not been presented regarding claim 13. Claims 14-18 depend from claim 13 and thus incorporate the features recited therein. These claims are thus also distinct for their incorporation of the features in the independent claim as well as for their separately recited patentably distinct features.

Accordingly, Applicant respectfully requests reconsideration and withdrawal of the rejection of claims 2 and 7, claims 5, 6, and 12, claims 8-10, claims 13-18 under 35 U.S.C. § 103(a).

Dated: November 18, 2008

Respectfully submitted,

By 

Ronald P. Kananen

Registration No.: 24,104

Christopher M. Tobin

Registration No.: 40,290

RADER, FISHMAN & GRAUER PLLC

Correspondence Customer Number: 23353

Attorneys for Applicant